MISSOURI BOTANICAL GARDEN
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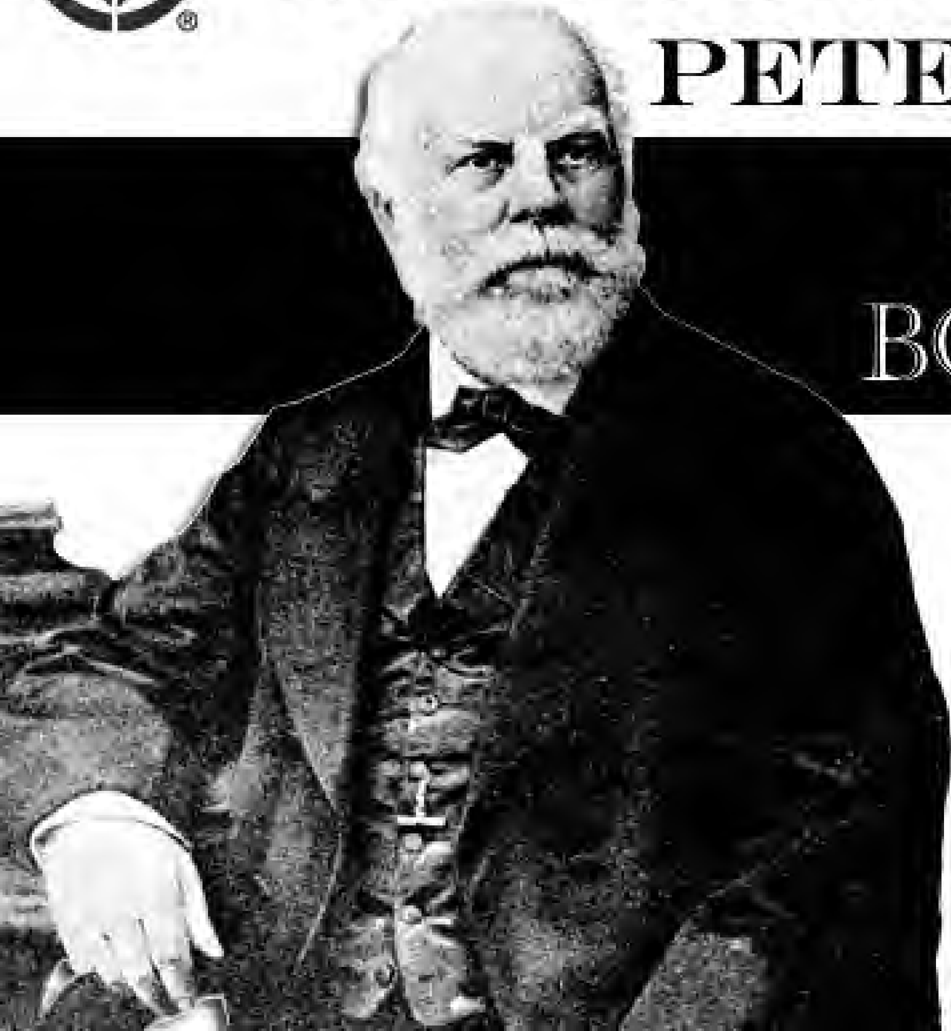
GEORGE ENGELMANN BOTANICAL NOTEBOOKS



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2024-2050

Mexican Boundary & Pacif RR

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Berberis vulgaris

Spr II, 118
Rs II 222

Europ. Asia med.

Fr.

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Cer: caespitosus. This is the most eastern cereus I find. I first met and specimens for the herbarium at Delaware mount 170 miles west of Fort Smith Aug. 15. 1853 –

Deer Creek collected live specimens and put in box. Aug 26th –

Collected many small specimens in the box at the mouth of valley river about 480 miles west of Fort Smith Sept 10th. 1853 – This is the last place I noted having seen it yet I recollect seeing it further west.

Cer: viridiflorus On the plains about 240 miles east of the Pecos I first find this plant picking it up occasionally until we reach the Rio Grande. Sept 12th 1853 –

Cer: Fendleri. Sept 23rd on the plains about 50 miles east of the Pecos is the most eastern limit of this plant. –

On the Pecos Sept 28th I collect looking very much like the plants near El Paso. – It is generally simple or slightly branching here.

Nov 14th on rocky hills near Covero about 50 miles west of the Rio Grande I find it aggregated fully as much as in C triglochidiatus.

Bill Williams mount west of San Francesco mt. I find it Jan 2nd 1854. In the Aztec mt. about 450 miles west of the Rio Grande is the last locality noted

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(2)

Cer: triglochidiatus. Rocky Canons of the Red Gallinas a short distance east of the Pecos I first collected this plant. Sept 25th Also at the Pecos and the hills about Santa Fe.

Cer: Conoideus? sp nov: !
On the mountains and rocky places on the Pecos this plant is found Sept 27th — The flower and fruit this plant is needed before it can be determined with certainty to be distinct from C. phoeniceus to which it is probably more nearly assimilated — The spines are longer and stouter & angular the heads or stem more conoidal and the habit of the plant quite different not growing in the compact regular oval masses like the latter.

At the Indian caves near San Francisco Mt this or a very similar plant appears Dec. 19. 1853 —

Cer: phoeniceus (Syn. Cer: Coccineus? Englm.) Plains and rocky places near Sandia mountains also about Santa Fe Octo. 9th 1853 — Spines very short & slender grows in very densely aggregated masses of a very regular oval shape the top of the joints much more flattened than in the preceding species. —

Cer: oligacanthus? sp. nov: About 15 miles west of Zuni this plant was first met growing under cedar trees. — It probably nearly approaches C. triglochi but yet it appears quite different. fl & fr. are both needed to determine it —

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Cereus gonacanthus

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canaliculatus sp nov.

canaliculatus sp nov! Spines 6–8 channeled very stout. On a high sand bluff where there are a few scattered cedars near the deep natural well about 40 miles west of Zuni is the only place where I collected this plant. – Nov: 29th

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Cer: Bigelovii var. Zuniensis Near Cañon Diablo on the Colorado Chiquito about 120 miles west of Zuni Dec. 14th ~~&c~~ This plant is much aggregated – var: Mohavensis 30 miles west of the Rio Colorado this plant appears much aggregated also with much longer radial spines and less angular collected 4th March. 1854 – In appearance both these plants very much resembles the plants of this division on the Rio Grande. –

Cer: poecilocentrus! sp nov! – valley of White cliff creek Jan 28th 1854 I find this beautiful pretty colored spined cereus. – Its habit so much resembled the Cer: Chloranthus which I had seen in fl. & fr. in abundance around El Paso that I noted it on my journal as the same. – It appears to be however quite distinct. –

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In the Cactus Mountains January 26th
I noted the following which I suppose
must be a variety of the above
C. sp. nn. branching slightly or nearly
simple; ribs 10-12, oblique; areolae
ovate, approximate, 2-4 lines distant;
spines about 15 or 16; radial spines
10-12 short 1½ to 4 lines long, white with
dark brown or blackish tips, central
spines about 4, upper one short
4-5 lines long 3 lower ones longer (1-2
inches) frequently slightly grooved
or angular at the base; somewhat
bulbous at the root; whole plant
2-4 inches high. 1¼-2½ inches
in diameter - Rocky hills near Cactus
pass January 26th 1854

Cer: Xanthocentrus sp nov!
Bill Williams Fork about 50 miles
east of the Colorado Feby 13th 1854
I first found this plant. -
Recollect seeing it in abundance
in the valley of Mojave creek
100-150 miles west of the Colorado
in fact almost to the Sierra Nevada.
plant 5-8 or 10 inches high slightly
branching in habit very much
resembling the preceding readily
distinguished by its bright straw
coloured spines not a particle of dark
color appertaining to them. Indeed
both these plants resembled the C.
chloranthus about El Paso excepting in
the color of the spines that I took
them be to varieties of that plant

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Cer: Giganteus Englm.

Bill Williams valley 90 miles east of the Rio Colorado Feby. 4th. 1854 first saw the great Cereus giganteus first figured in Emory's Report. Those figures are not good. To see the repetition of his regular figures you would suppose they frequently grew in that form but among hundreds that I saw today not one took the form of branching there represented. – The base is also badly represented, showing as if it was larger and spread out at the ground like other trees; whereas the very reverse is the fact being actually much smaller ~~than the~~ and more contracted there than any other part of the tree. – The same remark holds good also with the the branches; being much smaller immediately where it is given off from the main stem. – I have frequently seen 5–9 branches given from one point on the tree; it being always represented in Emory as two. – The branching is also very irregular – they are frequently seen 20–25 feet high without any branching. – The ribs and intervals or grooves in the specimens I have seen are not nearly so broad as described by Dr Engelmann from the notes of Dr. Parry. – At the base of the tree the ribs are much flatter ~~and~~ even so much sometimes

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as to become entirely obliterated.
but at its largest portion which is
some 8 or 10 feet from the ground
the furrows are very deep and the
ribs quite acute. –

Feby 13th 1854 about 50 miles east of
the Colorado – Measured today
a Cereus giganteus which was
where I cut it down 12 inches
from the ground. – At this place
it measured $12\frac{3}{4}$ inches in diameter
at 10 feet from the ground it
measured $23\frac{1}{4}$ inches in diameter
– nearly double. – I cut it down
for the purpose of having a
drawing made of a section of the
tree at its largest circumference
The wood at its base where I
cut it was nearly solid – the
spaces where the reticulations had
originally been were nearly filled.

Feby 19th near the Colorado –
C. giganteus still continues but
is rather sparser as also its ac-
companying tree the "Greenbarked Cercidium floridum
acacia" spoken of before –

It is somewhat curious that this
tree invariably here accompanies
the Cereus. affording protection
to it in its young state and in a
great many instances as the giant
cactus becomes older it apparently
kills the poor Legumose that
once afforded it protection

3365

(7)

I stood in a position today (Feby 6th) at one time where I could count without turning my head I think upwards of 200 Cer: giganteii covering the hill sides from top to bottom all branching in the most fantastic forms The highest I saw could not be more than 35-40 feet high.—

Saw today (Feby 7th) almost the original of Stanleys landscape in Emory's Report: The Cereus Echinocactus Wislizenii and Mezquite or "green barked acacia" are not overwrought, but the Opuntia or "Cactodendron Chug" which is the other plant and is represented regular in its curves and outlines to be true to nature as the "Chug" appears in this neighborhood.— Here it is very angular and uncouth in its appearance.—

(8)

~~Opuntia Arborescens~~
Cylindraceae Clavatae
Opuntia Clavata Englm.
This plant was collected from near Santa Fe to Albuquerque Oct. 2nd 1853.

Op. ~~Bigelovii~~ Kennedyi. sp nov!
This I found about 30 miles west of the Rio Colorado March 4th 1854 – In manner of growth and habit it very much resembles the O. clavata of the Rio Grande valley – They are separated by over 600 miles of longitude and quite different in the color and arrangement of the spines and also in the size of their seeds. –

Opun. Schottii. sp nov. This plant I saw in abundance in Texas between the mouth of the Pecos and Devils river or San Pedro near the Rio Grande – This in habits very resembles Op. Grahami near El Paso but it is distinguished from it by its flattened spines In this respect it also approaches Op. clavata. –

Op. Emoryii sp nov. We collected this remarkable plant about 40 miles south west of El Paso about midway between the Sand hills & lake Santa Maria.

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It is the the largest plant of the Section Clavatae that I have seen. — Its striking habit and triangular clearly and readily distinguish it from O. clavata to which it approaches in its conspicuous pulvilligerous fruit. —

Op. Grahamii sp. nov. — This plant I have seen from the Cañon of the Rio Grande to Frontera near El Paso in a range of about 100 miles up and down the river It is distinguished from all the others by its very long slender and subterete spines. —

Cylindraceae Arborescens
Op. arborescens Engelm.

This plant is wide spread and well known. I first found it east of the Llano Estacado about 200 miles east of the Pecos. — Sept 15th 1853. — The most western limit I have seen it is at Zuñi about 150 miles west of the Rio Grande at Albuquerque At this place other arborescent Opuntias of habits so similar as to deceive an unpractised eye take its place. — I have seen it in Texas as low down as the mouth of the Pecos. —

(10)

Op: acanthocarpa sp nov.—

In the mountains of Cactus Pass. January 26th 1854.—490 miles west of the Rio grande. Arborescent, erect. cylindric joints wandlike given off at an acute angle with the main stem tuberculated. light or yellowish green spines as in O. arborescens never dark colored like O. arborescens, Sheathed, wood reticulated but solid at base even in young specimens.—Not nearly as much branching as in arborescens.—

Fruit subglobose, spiny, and quite different from Arborescens Seeds large many and acutely angled presenting 6 to 8 faces Plant 5 or 6 feet high.—

Near Cajon Pass March 15th I find another arborescent Opuntia with spiny fruit very much resembling if not identical with the above.—

Op: echinocarpa sp nov?

Plant low 6–18 inches high spreading and partially prostrate woody at the base cylindric wood reticulated, joints numerous, short 1–2½ inches long, ovate or oblong, tuberculated, tubercles numerous, short, considerably elevated or prominent areolae 4-7 lines distant; spines about

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15 smaller & more setose than in O. arborescens. Sheaths of spines white but sometimes tipped with yellow; fruit globose small dry very spiney umbilicate broad still holding loosely the old dry flower. Belongs to the section Cylindraceae and nearly related to O. arborescens. It also resembles the tall species common to this region (O. acanthocarpa) but the fruit is much more spiney and smaller; the joints are short and compact very different from the other. Valley of the Colorado of the West Feby. 21st 1854—

Op: Whipplei. — Nov?
Near Zuni Octo. 20th 1853.
I first observed this plant just before arriving at Zuni At first I took it for a variety of O. arborescens in a very prostrate form it being over 15 inches in highth supposing it to dwarfed from some cause or other—

Note Op: sp nov: ligneous prostrate, spreading, joints ascending cylindric 2–4 inches long tuberculated; spines mostly short & small except the central one which is deflexed 1–1¼ inches long covered with whitish which are sometimes yellowish

at tips. — Berry yellow much tuberculated tubercles small about 3 times as many as in O. arborescens; pulvilli of the top of the tubercles ovate and somewhat 2 colored; umbilicus deep and narrow; seeds smaller than O arborescens, smooth with an incurved beak, dark colored in the fresh berry (quite yellow when dry); wood reticulated with spiral interstices like O. arborescens. — Growing in large spreading masses 8 – 15 inches high on the plains near Zuñi Nov. 27th 1853. —

Lithodendron creek near the Colorado Chiquito Decr 4th we find it 28 inches high and taking a more erect form.

Jan. 4th 1854 about 40 miles west of San Francisco Mountain I find it 3 feet high. —

January 13th cut a stick from a bush 5½ feet high

About the head of Bill Williams fork near Cactus pass is about the west limit of this plant on our route. ——

Op: ~~Siphonoxylon~~ Bigelovii sp nov:

Feby. 6th about 100 miles east of the Colorado Bill Williams Fork we first found this plant. 10 – 12 feet high —

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notes, O. sp nov.? erect, cylindric, nearly simple or but slightly branching, young or recent joints very fragile many dropping off apparently by the wind and taking root; joints 1½ – 6 inches long 1 – 2½ inches in diameter shorter ones ovate the larger oblong, tuberculated in about 13 slightly spiral or oblique rows, short; areolae orbicular or slightly ovate, approximate 4 – 6 lines asunder, white woolly or tomentose; spines 10 sheathed, whitish or very light straw color, about 1 inch long 7 of them spreading in every direction, 3 lower ones deflexed; there are 6 – 10 very small setaceous spines upon the lower edge of the areolae and 2 small whitish glands upon the upper: – The spines are so thickly set they give the upper joints a white glistening appearance

The lower joints that do not drop off die and become deflexed turning dark brown or mahogany color. – Fruit tuberculate sometimes a little spiny, ovate, umbilicate large for the size of the fruit which is 1 – 1½ inches long ½ – 3/4 inch in diameter – green slightly tinged with yellow seeds small. Wood of the stem very much reticulated, with a large hollow in its center leaving large circular holes at the articulations of the joints. – 2 – 12 feet high –

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(14)

Davisii
Opuntia ~~[illegible]~~ sp. nov

First collected this plant about 40 miles east of Tucumcari mt near the Llano estacado Sept 19th. From its somewhat clavate joints and glistening spines I took it to be Dr. Engelmanns O. Clavata. At Tucumcari Mt. Septr. 21st and for a day or two in this region I met it but the fruit was abortive in every case where I examined it, which was every one I met. — It was quite abundant

Stem woody, and older joints

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Stem woody, and older joints nearly solid —

O. Kuhnsiatter

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ovate,

high

eter.

opposing

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Opuntiae Cylindraceae graciliores

Op: frutescens Englm.!

At Laguna Colorado 60 miles east of the Pecos Sept 22nd this well known opuntia was first obtained on rocky bluffs. — Its habit here is exactly like that at El Paso and as low as San Antonio Texas. — In Bill Williams Fork Feby 1st 1854 about 500 miles west of the Rio Grande I find it again. — Its range east & west is very nearly 700 miles. —

Op: vaginata Engl.

Valley of the Rio Grande Octo 20th 1853 — Although this plant is undoubtedly closely allied to Op. frutescens I have no doubt of its being very distinct. — Its tuberculated stem and yellowish tuberculated fruit are very characteristic. — It was very probably originally founded on a mixture of this with the frutescens. —

Op: ramosissima Engl!

Valley of Bill Williams Fork Feby 7th 1854 It is here low not more than 15 – 18 inches high about 50 miles east of the Colorado.

Description — Erect very much branching at top; cylindric, woody. Smaller branches slightly reticulated but the center or pith very small. Older ~~branches~~ portions of the wood solid younger branches terete and slightly

tuberculated; tubercles flattened so as to give it almost an even surface, divided by lines, giving it somewhat of a lozenge outline; areolae approximate, linear, the wool of it continuing to grow above it on the line forming one side of the hexagon. Central spine 1¼–2 inches long projecting nearly at a right angle with the joint in 8 oblique or 4 straight spiral rows. dark purple at base yellowish at the point covered with a yellow sheath radial spines 3–5 deflexed, white small & setaceous; fruit ovate crowned with the remains of the flower; fruit very spiny & bristly. — Seeds small bony, somewhat rostrate. Plant 1–2½ feet high grows on gravelly hill sides.

March 2nd 1854 one days march west of the Colorado I find this plant growing quite tall measured one 5½ feet high. —

March 7th 70 miles west of the Colorado I find it 6 feet high 4 feet is a very common size.

March 13th about 70 miles east of the Cajon Pass is the most western limit that I noted it. —

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Opuntiae bacca sicca spinulosa

Op: fragilis. Nutt.

β. arenaria. –

Grows in sand about El Paso –
I have never seen this form on my
last trip. –

Op: erinacea sp. nov.

This plant was collected 44
miles west of the Colorado river.
I do not remember seeing it
farther west

Op: hystricina sp. nov.

This was collected at the Rio
Colorado Chiquito
and at the San Francisco mtn
From the Rio
Grande to this place this and the
closely related species O. Missouriensis

3377

are the most abundant of all the Opuntiae – in habit they very much resemble each other. –

Op: polytricha. sp nov.

On the volcanic rock, about Santa Fe and the Sandia mountains near Albuquerque this plant is found. Oct 3rd I do not remember of having seen this plant growing on the plains

---

Op: Missouriensis. DC.

var. a rufispina.

I found this plant at Hurrah creek about 30 miles east of the Pecos on plains and rocky places. Sept. 24th also still farther east on the plains Septr 14th.

var. albispina

This is the most eastern Op. of this section I find it on sandy bottoms near the Canadian Septr 11th about 250 miles east of the Pecos

The specimen collected in rocky aroyas near the Sandia mountains Octr 8th – I am disposed to think is a diseased variety of Op: poly=tricha It was collected more on account of the variety of the fruit. I do not remember of ever seeing it on the plains. –

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10-21

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Op: Missouriensis. DC.
Var. Sphaerocarpa

This plant was only found on the eastern face of the Sandia mountain near Albuquerque Octo 10. 1853 —

Opuntia ellipticae glomeratae
Op: brachyarthra sp nov.

This plant was found in but a single locality under pinus edulis at the foot of Inscription rock about 40 miles east of Zuñi Nov. 18. 1854. —

Opuntia ellipticae
Op: basilaris sp nov.

On hills & ravines in the passes of Cactus Pass and Canon Creek I first found this plant Jany 27th 1854. — It grows in great abundance from this place crossing the Colorado until we reach very nearly Mohave creek. — Its habit and manner of growth is quite different from other ellipticae Opuntiae I have seen growing. It is scarcely proliferous like all the true ones of that section. —

Op. microdasys — erect fruit red.

3379

near Presidio del norte. - on the
Boundary Commission August. 1852 -

Opuntiae Ellipticae fructu Carnoso

Op: caespitosa Nutt?

At Fort Smith June 22nd 1853 in Shady and sometimes rocky places collected what I suppose must be this plant although at that time I mistook and labeled it O. missouriensis. - It was just past flowering. - flower sulphur yellow with a reddish or orange centre. - with the ovary 3 inches long. Plant low & spreading -

Op: stenochila. -

At the Canon de Zuni Nov. 17th and the day before collected this plant of which I make in my journal the following remarks, "Collected today an Opuntia very near in appearance O. vulgaris. - fruit oblong sometimes over 2 inches long, pale red or sometimes nearly green spines few. - joints very flaccid and yielding sometimes lying flat on the ground" -

Op: bulbi~~fera~~osa - fusiformis

Delaware Mount. about 200 miles west of Fort Smith Aug 15th I collected an opuntia resembling the one at Fort Smith but having tuberous roots. -

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Op: ~~bulbifera~~ ~~osa~~ ficoiformis

Deer Creek Aug 26th collected it again & remark in my notes that it sometimes has large tuberous roots. —

Great Comanche plains Septr 2nd collected some plants and put in my box of living specimens. —

cymochila

Op: ~~[illegible] sperma~~

Plains Septr 12th 1853. about 70 miles east of the Llano estacado this plant is first collected. — I observed that appears different from any I had heretofore collected. Stem procumbent. joints orbicular. Spines long, deflected whitish. fruit deeply umbelicated

Septr 14th Comanche camps collect it again & remark that that the fruit is juicy & edible —

Collected it again near Tucumcari hills, about 80 miles east of the Pecos Septr 21st —

Also on the hills around the hills at the eastern base of the Sandia mountains Octo 10th 1853. —

Fendlera

Op: ~~purpurascens~~

Seen & collected this plant in the vicinity of San Elizario & Socorro May 1852. — In Dr. Torreys herb of commission plants. I think I saw it but not in flower 50 or 60 miles below on the Rio Grande —

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Opuntiae Ellipticae fructu carnosa

Op: dulcis. collected on the Commission near Presidio del norte. 1852. August

Op: spirocentra. prostrate white spined. plains near the Canadian about 380 miles west of Fort Smith. Septr. 2nd 1853

Op: Camanchica. prostrate spines brown. berry deep red juice sweet From the commencement of the Llano Estacado to Tucumcari hills. Septr. 16th and 21st 1853.

Op. phaeacantha Engl.
var. β major
Inscription rock near Zuni Nov. 18. 1853

Op: angustata.
Inscription rock near Zuni Nov. 18. 1853. fruit imperfect
Bill Williams Fork sub erect without fruit Feby. 4th 1854
Cajon Pass. in fruit March 16th 1854

Op: procumbens. Aztec Pass. near San Francisco. Jan 22nd 1854 joints prostrate, obovate, compressed or applanate 9-13 inches long 6-9 inches in width. areolae 1½-2 inches distant Spines few 1-4 unequal deflexed, rather stout somewhat curved yellow 1-2 inches long. no fl. or fr. mountains & rocky places

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At San Francisco mountain Dec- 27th 1853. Collected a few spines of the same plant - prostrate joints orbicular 9-12 inches in diameter

Jan 29th 1854 at Cactus Pass another very similar one was collected but it had a greater number & stouter spines all prostrate

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Op: Engelmannii
Var. cyclodes
Where the Gallinas unites with the Pecos near Anton Chico Septr 24th 1853. I find this in fruit. —

Op: Occidentalis —
At Cocomungo about 40 miles east of Los Angeles this plant grows in immense dense patches much in the form of Engelmannii & Lindheimeri — not near as tall however as Lindh:

1500 feet high

Op: Lindheimeri ?
At Delaware mount about 170 miles west of Fort Smith I found but a single specimen of this erect Opuntia -- The fruit was too imperfect to determine whether it was E. Lindheimeri or Engelmannii it resembled them both very much in habit. — Aug 15. 1853 —

Op: chlorotica. — Bill William mount Jan: 3rd 1854 I first found this plant Erect, whole plant yellowish green, branching, joints obovate 8-10 inches long

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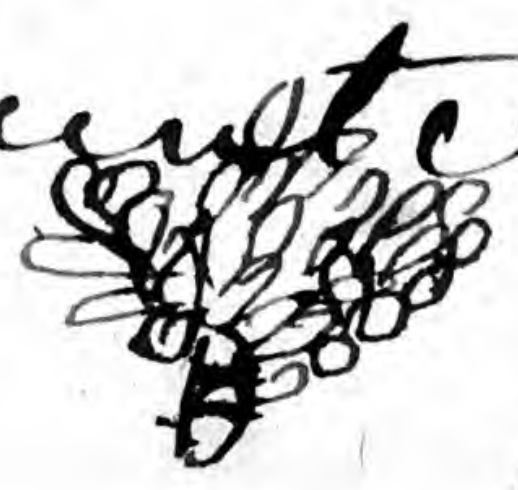
6–8 inches wide areolae pulvinate 1 inch distant; spines 2–6 deflexed slender, central ones largest, radial ones setaceous, bright yellow — fruit red, subpyriform pulvilli very prominent & numerous. — umbilicus deep. seeds blighted. —

Picacho Jany. 11th I find this Opuntia always on the Southern and eastern exposures, of of volcanic bluffs — never on the northern or western. —

Canon creek one of the heads of Bill William fork near Cactus Pass Jan. 26th 1854 I found a specimen of this plant very large 6–7 feet high on which I counted upwards of 100 joints.  and spreading as many feet in circumference. — This plant is more decidedly erect than the Engelmanni or Lindheimeri. —

Op: Xaniodes. I think I have specimens of this plant in Dr. Torrey's Boundary herbarium collected near Escondida Springs a short distance west from the San Antonio crossing of the Ri Pecos. — 1852. —

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